



# **WORLD PASTA CONGRESS**

**Scientific Consensus Conference:**

**the Healthy Pasta Meal**

**Milano, Italy**

**October 25-27 2015**

## **THE ROLE OF FIBER CONTENT IN PASTA AND THE POTENTIAL RELATIONSHIP BETWEEN THE SHAPE OF PASTA AND ITS FUNCTION**

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*Scientific, didactic and educational activities of  
the Italian Society of Nutrition Science (SISA)*



# MEDITERRANEAN DIET



THE MEDITERRANEAN DIET  
WAS ADDED TO THE UNESCO  
REPRESENTATIVE LIST OF  
INTANGIBLE CULTURAL HERITAGE  
OF HUMANITY  
ON NOVEMBER 17, 2010.



# MEDITERRANEAN DIET



HIGH CONSUMPTION OF FOODS OF VEGETABLE ORIGIN (PASTA, BREAD, LEGUMES, VEGETABLES AND FRUIT)

LIMITED CONSUMPTION OF FOODS OF ANIMAL ORIGIN AND CHEESE  
(PREFERABLY WHITE MEAT AND FISH)

MODERATE ALCOHOL INTAKE (PREFERABLY WINE OR BEER)

SINGLE COURSE MEALS SUCH AS PASTA WITH LEGUMES that, together with fruit and/or vegetables, provide all nutrients needed

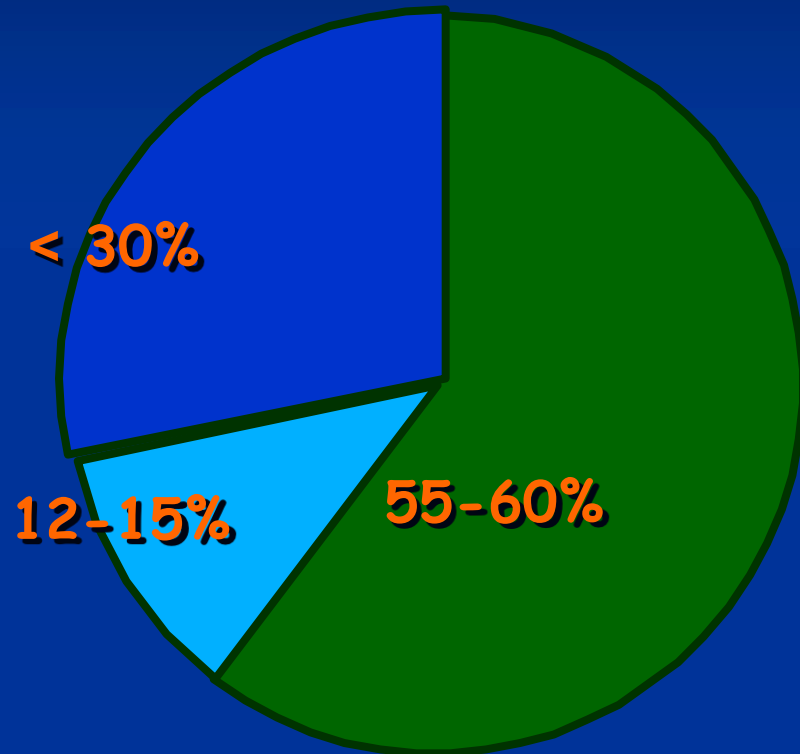
USE OF EXTRA VIRGIN OLIVE OIL



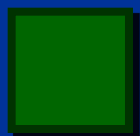
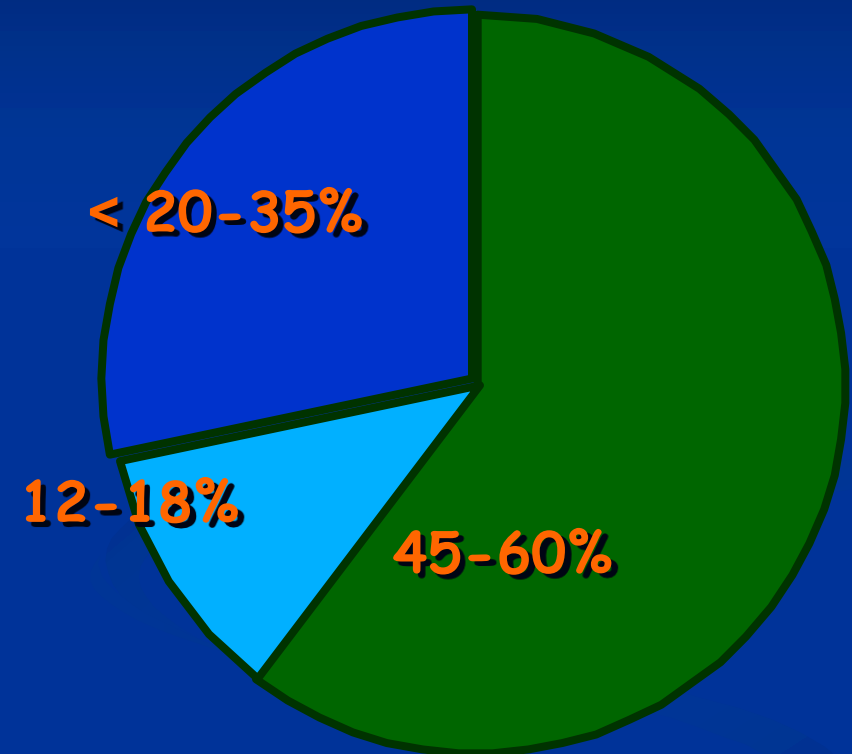
# BALANCED DIET



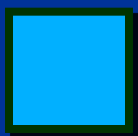
**LARN 1996**



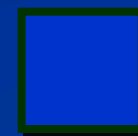
**LARN 2014**



**CARBOHYDRATES**



**PROTEINS**



**LIPIDS**



## PASTA AND MEDITERRANEAN DIET

The quantity of starch contained in pasta meets the worldwide nutritional requirements according to which a healthy and balanced food ration should provide at least 45-60% of calories derived from carbohydrates.

Pasta provides the correct amount of carbohydrates. It is a rich source of complex carbohydrates, and as such, fully meets the nutritional guidelines accepted throughout the world as representing a balanced and healthy food ration.



# PASTA AND MEDITERRANEAN DIET



**Pasta provides complex carbohydrates,  
proteins, vitamins, mineral salts  
and dietary fiber**

	Proteins g	Lipids g	Carbohydrates g	Fiber g	Calories kcal
<b>Durum wheat pasta</b>	10,9	1,4	79,1	2,7	358
<b>Whole- grain durum pasta</b>	13,0	2,5	65,7	6,5	350

Search: Tabelle di composizione degli alimenti and nutrition labels of foods





# DIETARY FIBER

Dietary fiber includes a variety of different molecules represented by unavailable carbohydrates that have different chemical and physical properties, that correspond to different physiological properties.

It is divided into:

Soluble fiber: pectins, gums, mucilages ...

Insoluble fiber: lignin, cellulose, hemicellulose ...



# THE ROLE OF DIETARY FIBER



The polysaccharides which make up dietary fiber are fermented in the colon by the gut microbiota.

## Dietary fiber:

- Improves and accelerates intestinal transit and therefore prevents and cures constipation
- Improves glucose tolerance and insulin sensitivity
- Has a cholesterol-lowering effect
- Increases the feeling of satiety





## DIETARY FIBER- LARN



In reference to the latest edition of LARN 2014 (Reference Intake Levels for Nutrients and Energy for the Italian population) the reference intake of dietary fiber is between 12,6 and 16,7 g/1000 kcal/d.

Therefore, in the context of a balanced diet which follows the concepts of the Mediterranean Diet, pasta contributes to complete the reference intake of this essential nutrient.



# PASTA



Pasta is important also for other reasons: **pasta comes in an infinite variety of shapes and sizes. In Italy there are over 300 different kinds, but it's not just a matter of fantasy, it's also a demand for taste. Choosing the type of pasta to be consumed, depends on the composition of the dressing that will be used.**

**Cooking time varies depending on the type of pasta and the quantity of seasoning that is retained depends on the shape of the chosen pasta.**

**As a consequence, the calorie intake of a portion is determined not only by the basis weight of the pasta but, the weight being equal, it depends also and especially on the amount of seasoning retained.**



# SOME SHAPES OF PASTA





# PASTA



All this must be considered in prescribing a diet in which, moreover, the presence of pasta is important as a daily intake of complex carbohydrates. Therefore, in a correct and complete diet, which has to include the consumption of pasta, it is necessary to suggest also which shape of pasta is to be used, and the most appropriate type that, together with the seasoning, will make the meal more rewarding.





# WEIGHT RATIO OF DRY PASTA TO COOKED PASTA

Cooked weight for 100 g edible portion  
of raw pasta

Short durum wheat pasta	raw weight g 100	cooked weight g 202
Long durum wheat pasta	raw weight g 100	cooked weight g 244



# PASTA



Often, in our clinical practice, we suggest to weigh the first course after having cooked it and seasoned it, for the following reasons:

- So that everyone at the table can eat the same type of dish.
- So that we, as nutritionists, can calculate approximately the calorie intake of the dish, knowing the difference between cooked weight and raw weight, and considering that the pasta has to be cooked “al dente”.





# THE IMPORTANCE OF COOKING TIME

Cooking pasta “al dente” makes the starch contained in it more digestible and guarantees a gradual and slow glucose absorption.

This way we can obtain an extended feeling of satiety and an improved “glycemic index”, that is a slower increase of post-prandial glycemia.



# THE IMPORTANCE OF FIBER COOKING TIME AND SHAPE

Therefore, we ask to consider in this Consensus Statement the importance of fiber, as well as the shape of pasta, the cooking time and the seasoning or combination. Also as far as pasta of small size is concerned (for example stelline [stars], puntine [dots], farfalline [butterflies], ditalini [thimbles], etc.), we would like to remind that cooking time and seasoning absorption vary depending on the shape.



# CONCLUSIONS

Pasta is a key element of the Mediterranean Diet and its validity for people's health has been proven.

It provides carbohydrates, proteins, small quantities of lipids, vitamins, mineral salts and dietary fiber.

Cooking it “al dente” makes it more digestible and improves its impact on glycemia.



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